Contents

Revisions

Rev	Description	Date	Approved
X1	First production MPC5645S board	05August11	S.McAslan
X2	1. Capacitors C2, C31, C23, C26 changed to higher voltage rating 2.Capacitor C201 moved from VDD_30V to P12V 3.Capacitors C215,C216 added to VDD_30V 4.Capacitors C217,C218, C219,C220 added to DM_VTT_DDR2 power 5.Capacitor C37 added to P12V	18August11	S.McAslan
X3	1.Capacitor C38 & C39 filtering added to USB nets and made as DNP. 2.Net names added before and after FB in power and regulator sections. 3.Differential clock nets suitably appended with _P/_N 4. U14 updated to 344-01142	23August11	S.McAslan
X4	1. Header J31 rotated per Alberto request. 2. IC U4, LIN Transceiver changed from 312-76816 to TMP-WF-15527 (TJA1020T from NXP) 3. Decaps added to U19,U20 and U22	26August11	S.McAslan
X5	1. Pullup resistor added to PF8 (SDA_0), PF9(SCL_0) PF4 (SDA_1) and PF7(SCL_0) and made as DNP 2. Netname between U25 and P11 changed from DCU_* to DCUL_*	30August11	S.McAslan
X6	1. DDR series termination resistor's package changed from 0603 to 0402	05Sep11	S.McAslan
X7	1. DDR series termination resistors RN5 and RN6 package changed to individual 0402 package to aid routing. 2. Capacitor C38 & C39 filtering added to USB nets JM_USB_N/P and made as DNP.	06Sep11	S.McAslan
X8	1. CAN-DB9 pinouts changed to standard connection.	07Sep11	S.McAslan
A	A085 Release	19Sep11	S.McAslan
AX1	A070 Release - J41,J42 connector pin outs reversed R89 removed from U12- pin no 3 R23 value changed from 100ohms to 470ohms U12 - pin 4 is supply changed from 5V_SR to 3.3V_SR - J12 pin 4 is connected with U12- pin 3 (Net name JM_RST_B)	17Nov11 18Nov11	S.McAslan
B	R89(DNP) added at U12- pin no 3, connected to 3.3V_SR MKT part number updated as MPC5645S-DEMO-V2 Board ID, Board Revision are Hard wired. A085 Release	21Nov11 23Nov11 29Nov11 1Dec11	S.McAslan

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Microcontroller Solutions Group

6501 William Cannon Drive West
Austin, TX 78735-8598

ICAP Classification: FCP: FIUO: PUBI: X

Designer: S.McAslan	Drawing Title: **MPC5645S-DEMO-V2**		
Drawn by: S.McAslan	Page Title: **TITLE PAGE**		
Approved: S.McAslan	Size C	Document Number SCH-27293 PDF: SPF-27293	Rev B
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ecified:
ohms, 5%, 1/8 Watt
ı uF, 20%, 50V

All polarized capacitors are aluminum electrolytic

2. Interrupted lines coded with the same letter or letter combinations are electrically connected.

3. Device type number is for reference only. The number varies with the manufacturer.

4. Special signal usage:
   _B Denotes - Active-Low Signal
   <> or [] Denotes - Vectored Signals

5. Interpret diagram in accordance with American National Standards Institute specifications, current revision, with the exception of logic block symbology.

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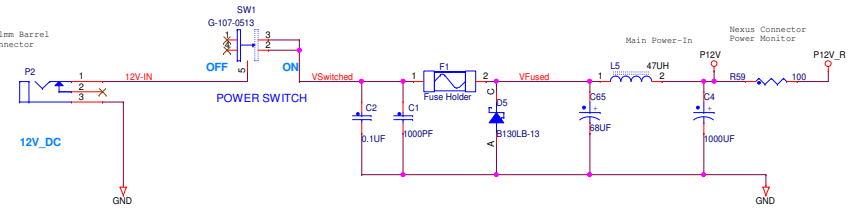
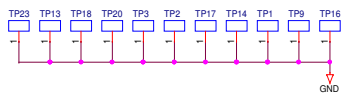
Power 1: Input and Switchers

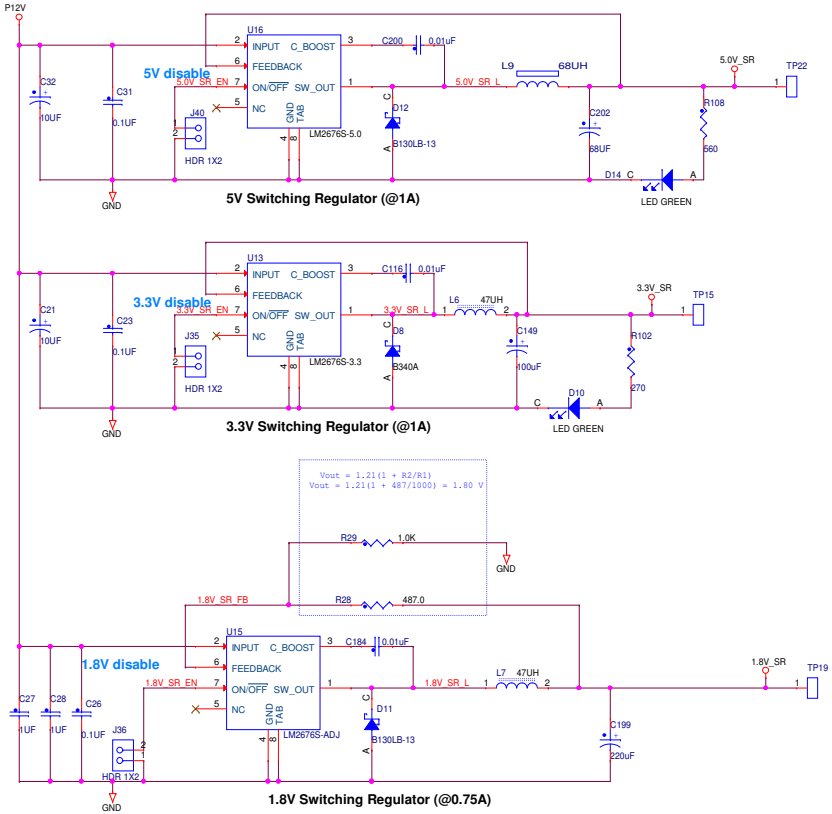
Power supply input and filter



Test and reference points



Switching Regulators



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Page Title:	Power Supply		
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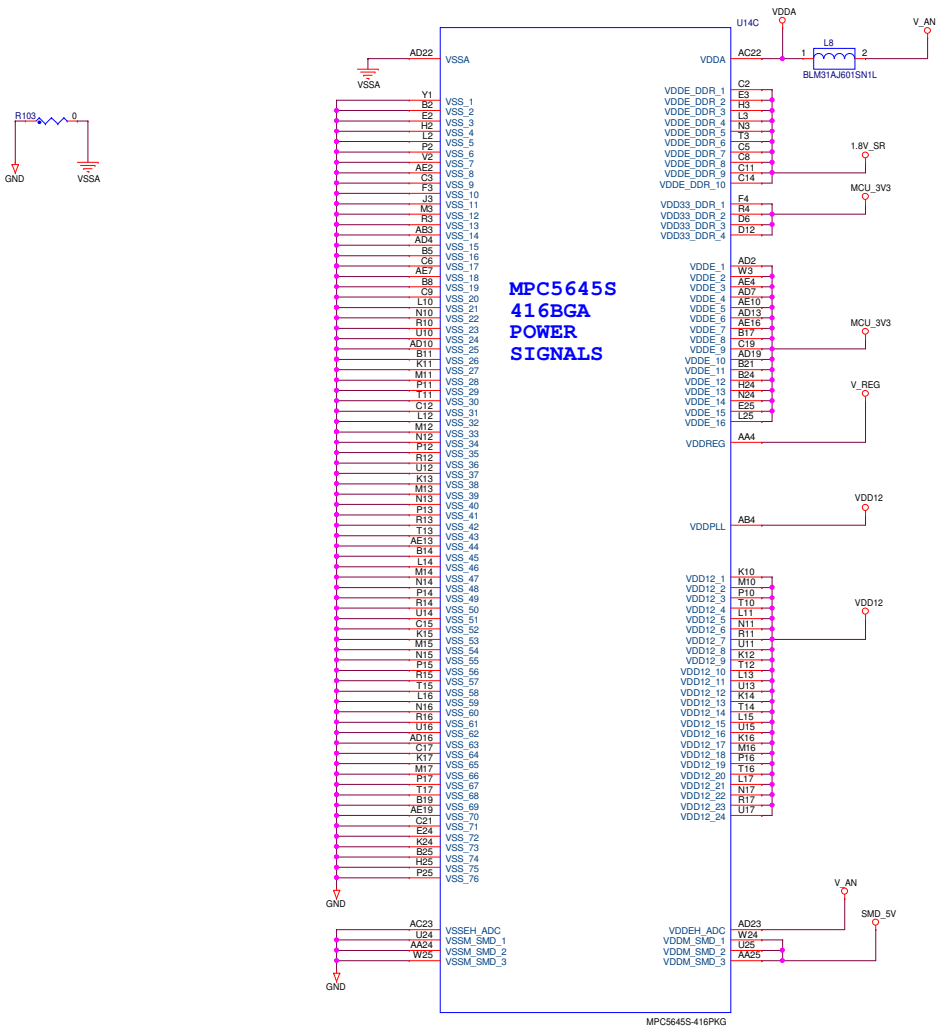
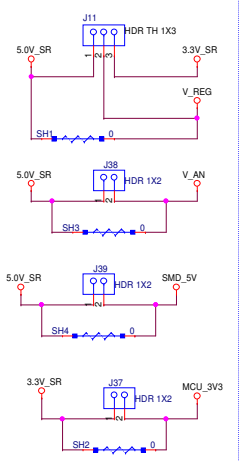
MCU POWER



Do not fit jumpers



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Page Title: **MPC5645 Power**

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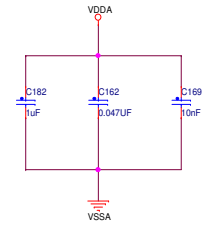
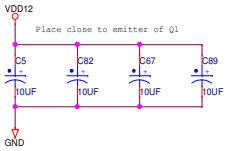
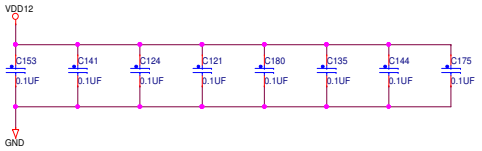
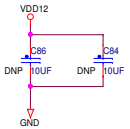
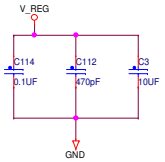
ling Caps



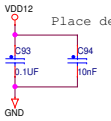


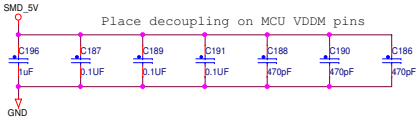


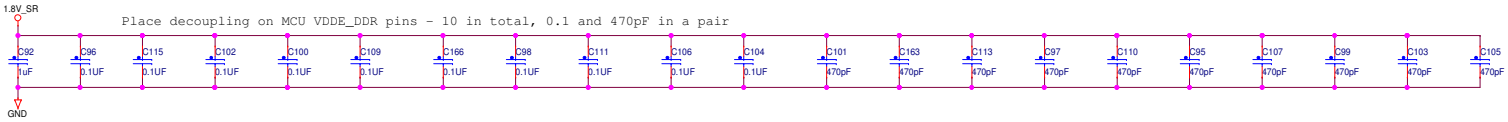


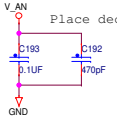


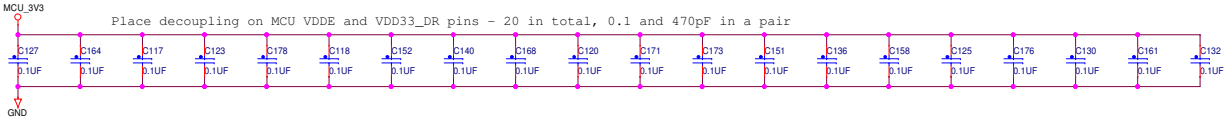
Place decoupling on MCU VDDR pin

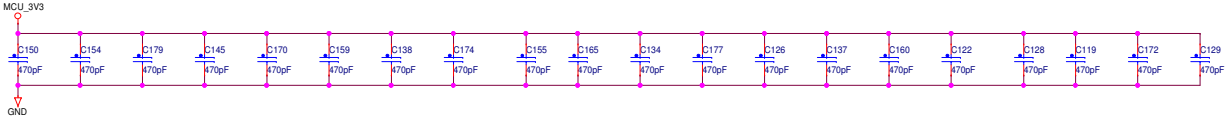












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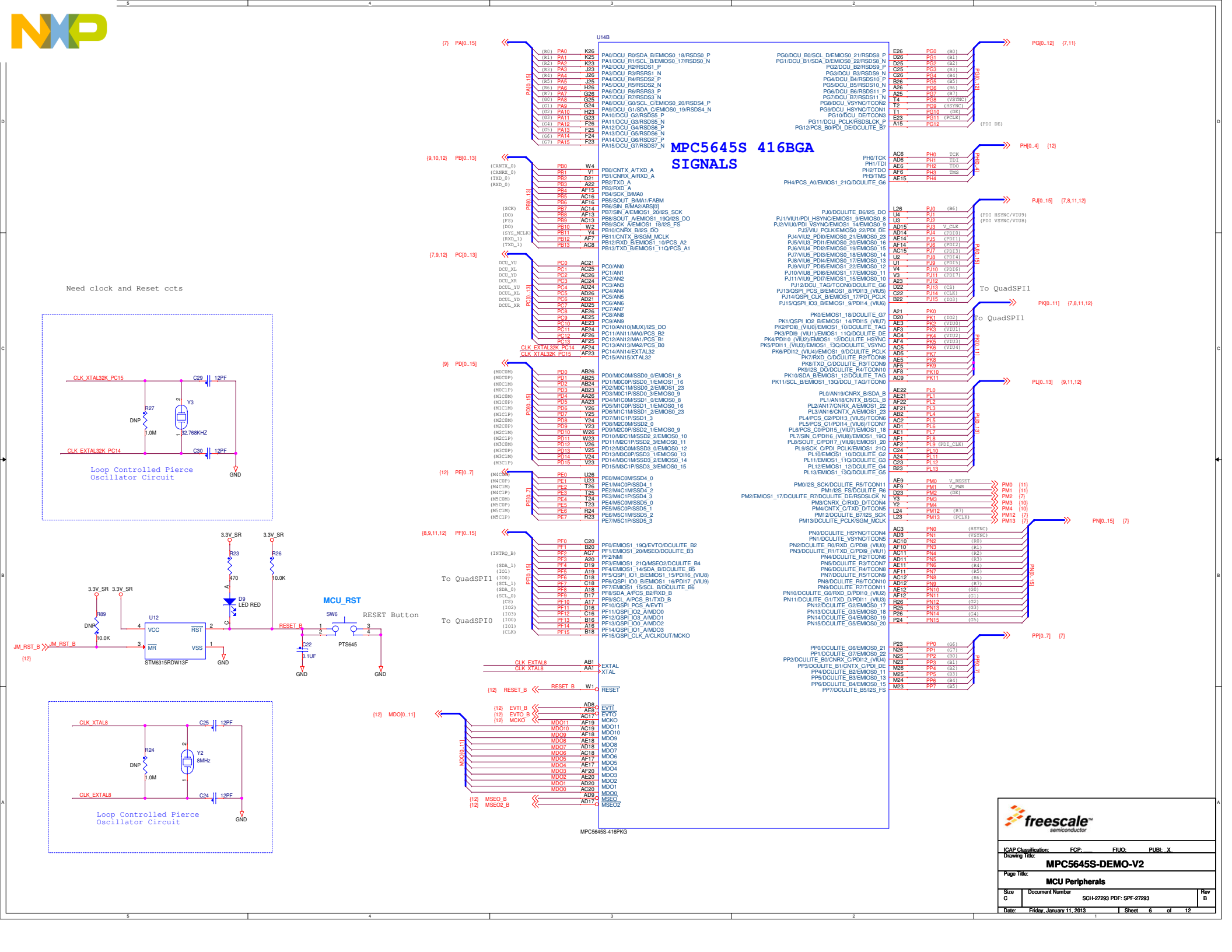
MPC5645S 416BGA
SIGNALS
U14B
MPC5645S-416PKG
Need clock and Reset ccts
Loop Controlled Pierce
Oscillator Circuit
MCU_RST
RESET Button
To QuadSPI1
To QuadSPI0
STM6315RDW13F
PTS645
LED RED
32.768KHZ
8MHz
freescale semiconductor
ICAP Classification:
FCP:
FIUO:
PUBI: X
Drawing Title:
MPC5645S-DEMO-V2
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MCU Peripherals
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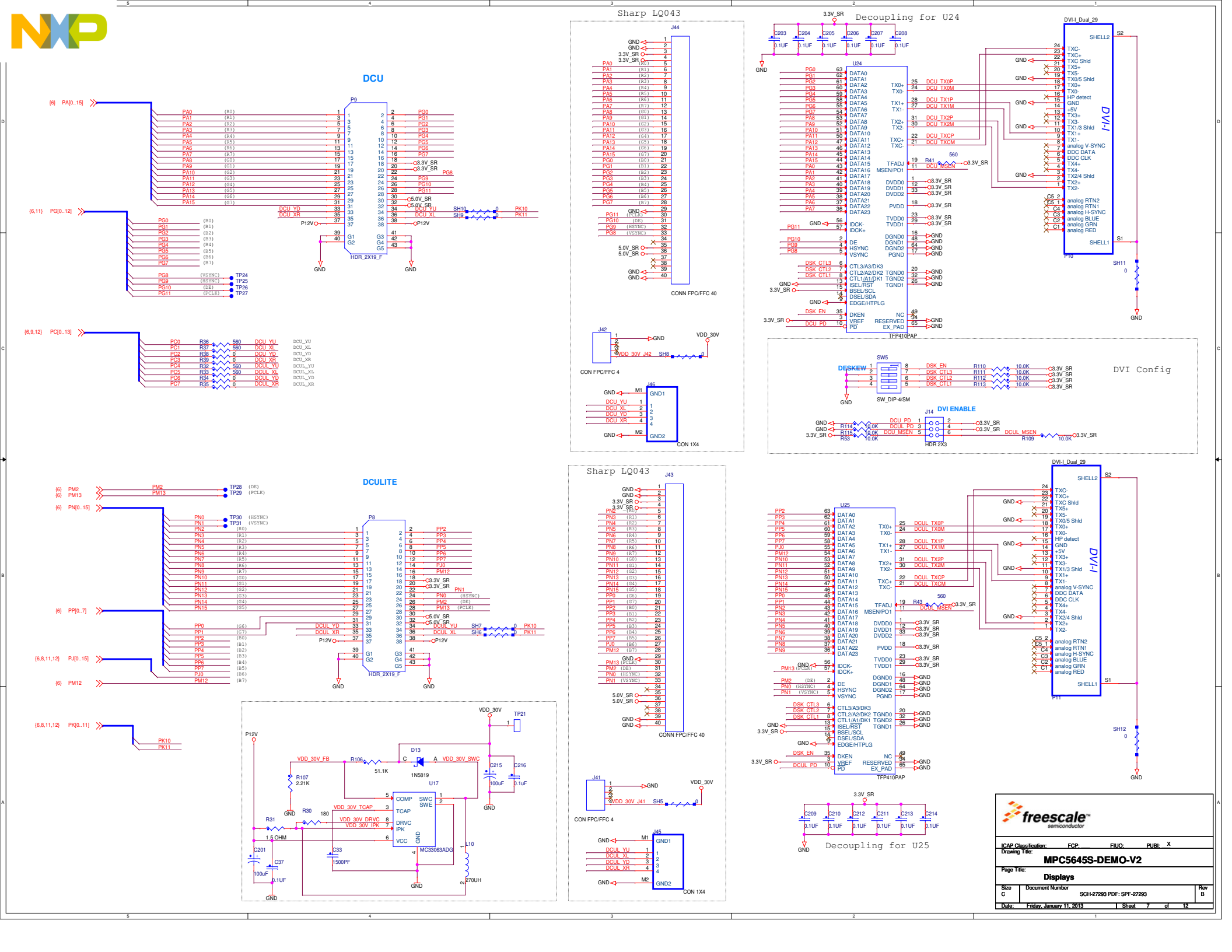
DCU
DCULITE
Sharp LQ043
Sharp LQ043
Decoupling for U24
Decoupling for U25
DVI Config
DVI ENABLE
DESKEW
CONN FPC/FFC 40
CON FPC/FFC 4
CON 1X4
TFP410PAP
HDR_2X19_F
HDR 2X3
SW_DIP-4/SM
DVI-I_Dual_29
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ICAP Classification: FCP: FIUO: PUBI: X
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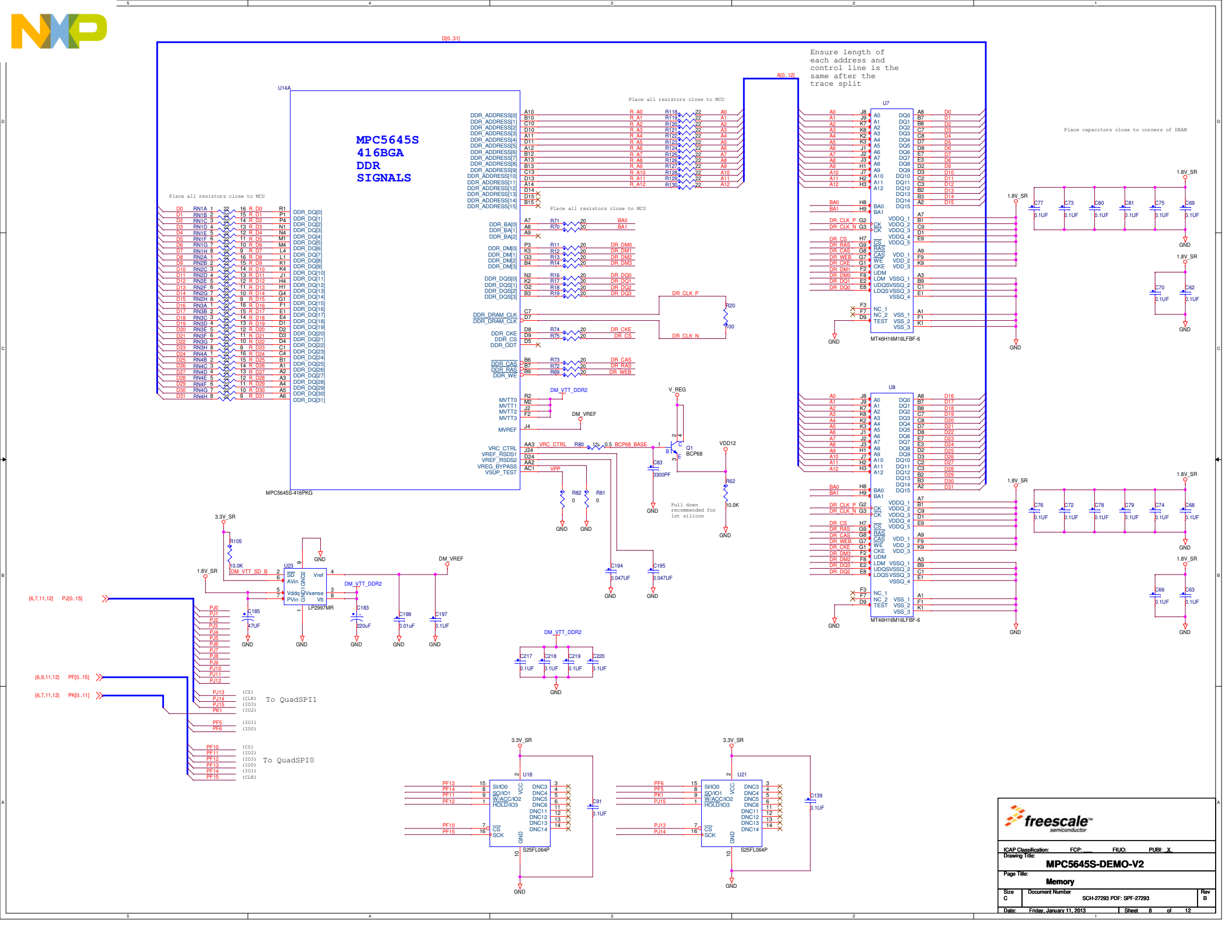
MPC5645S
416BGA
DDR
SIGNALS
Ensure length of each address and control line is the same after the trace split
Place all resistors close to MCU
Place capacitors close to corners of DRAM
U14A
MPC5645S-416PKG
U7
U8
MT46H16M16LFBF-6
U23
LP2997MR
U18
U21
S25FL064P
To QuadSPI1
To QuadSPI0
Pull down recommended for 1st silicon
freescale semiconductor
ICAP Classification: FCP: ___ FIUO: PUBI: X
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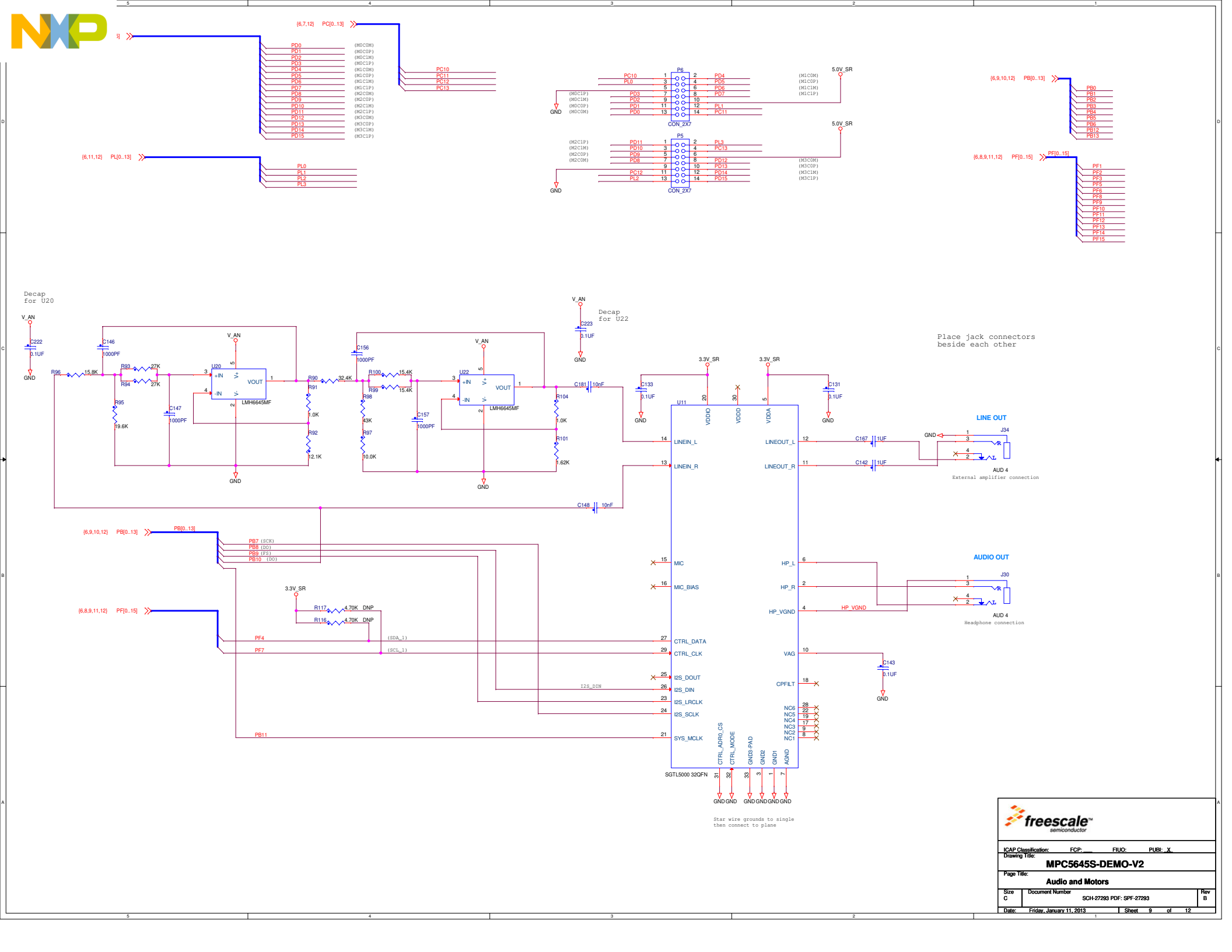

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ICAP Classification: FCP: ___ FIUO: PUBI: X

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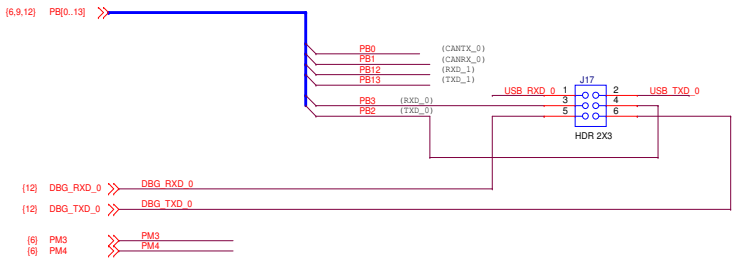

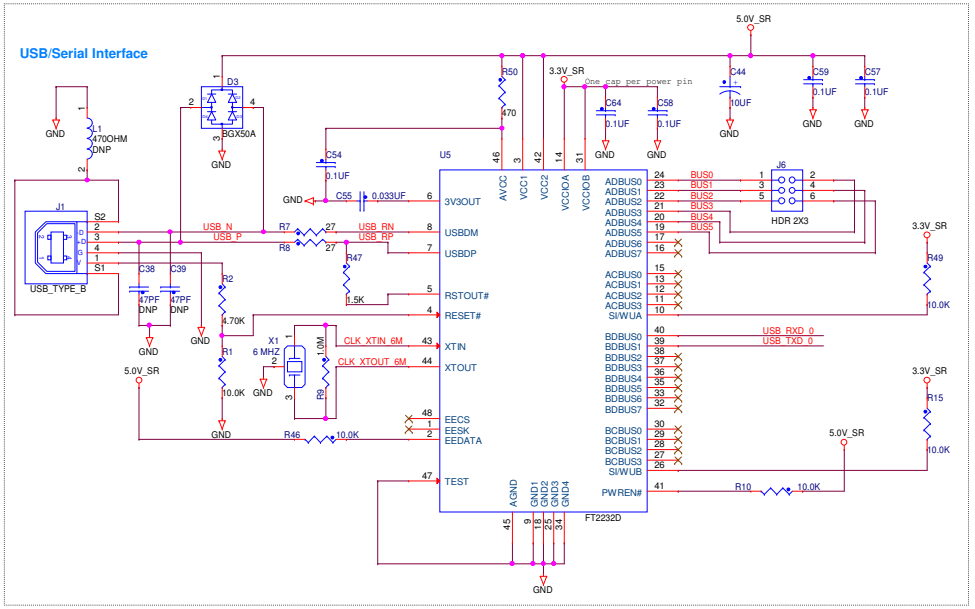

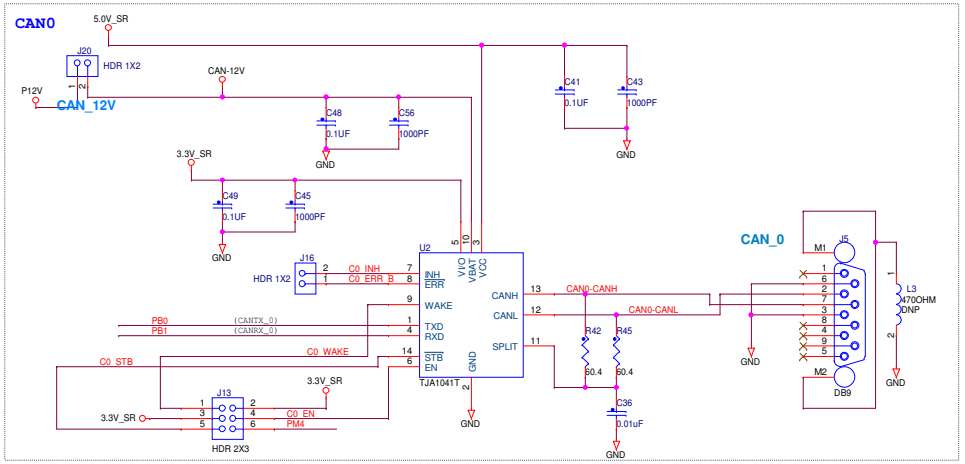

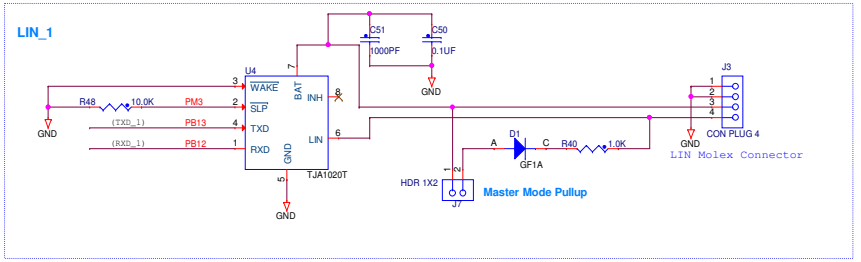

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ICAP Classification:	FCP: ___	FIUO:	PUBI: X
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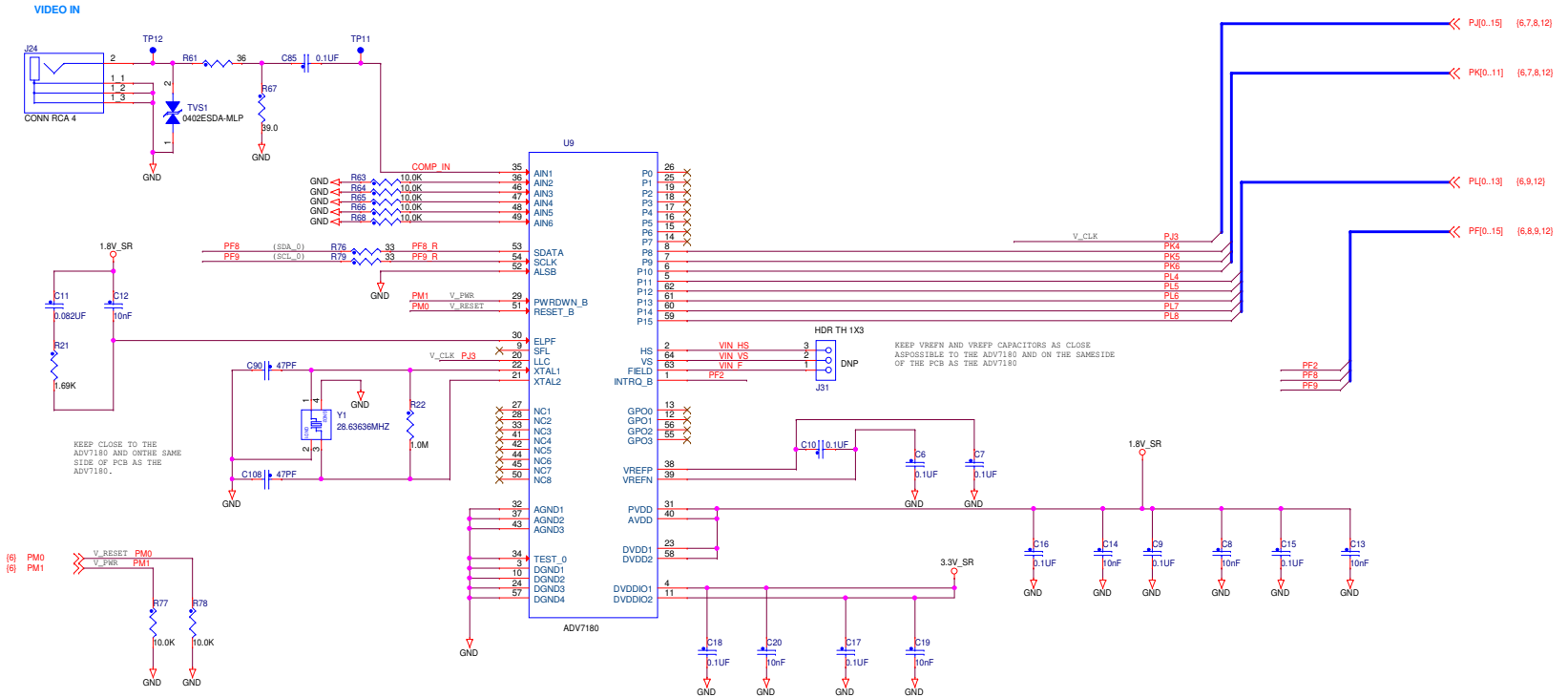

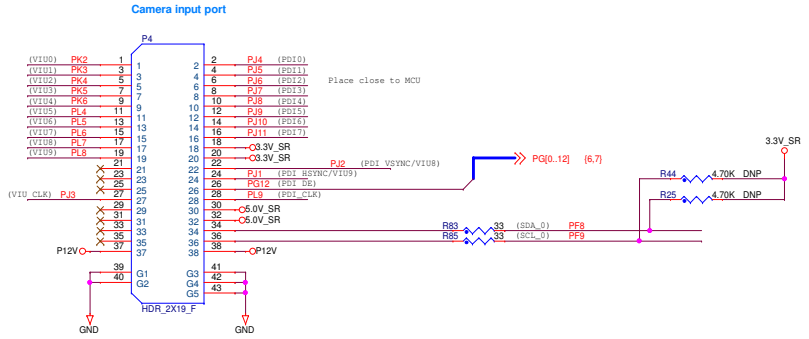

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ICAP Classification: FCP: ___ FIUO: PUBI: X

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Page Title: **Video Input**

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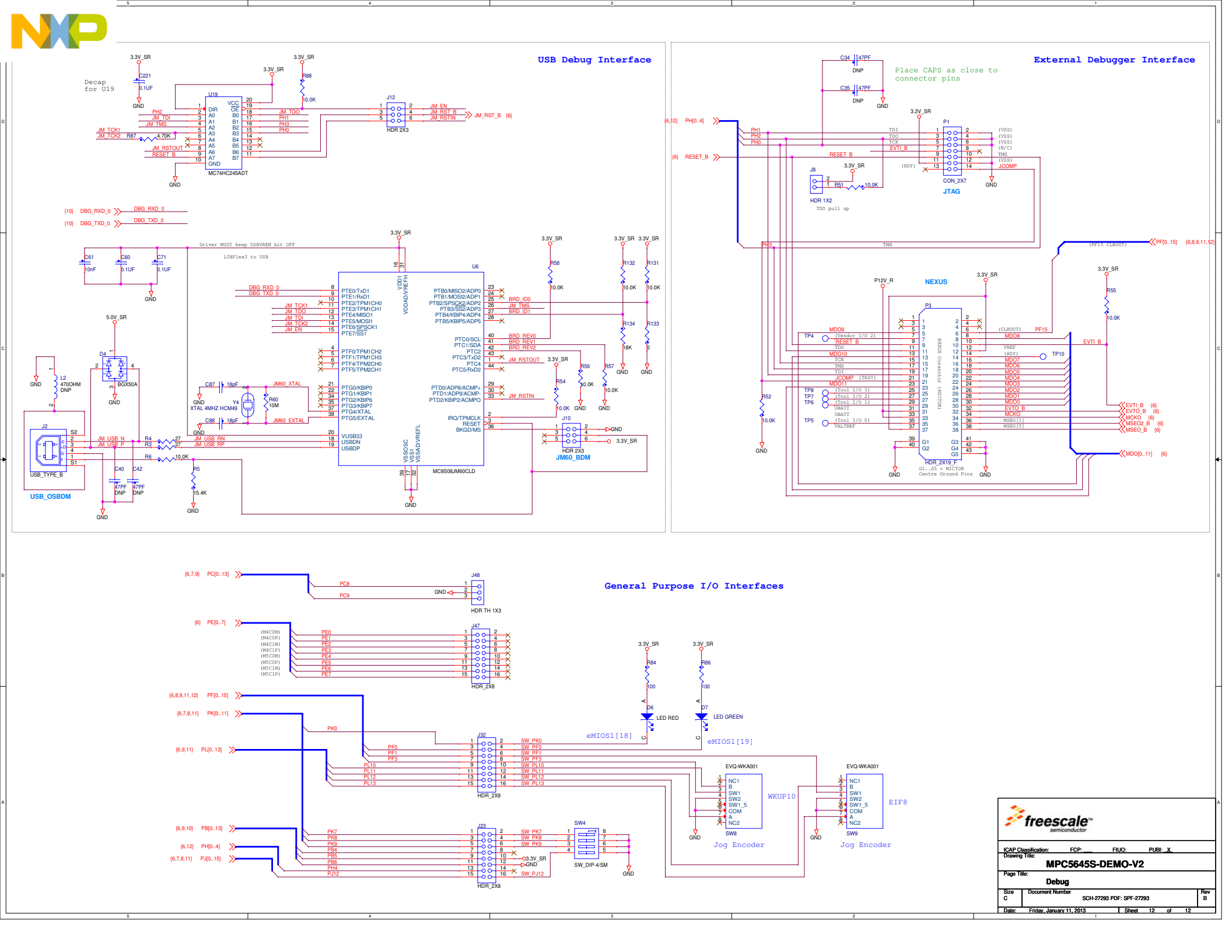

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